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Original Communications.

VIENNA MEDICAL EDUCATION.

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A YOUNG man commencing his medical studies in Vienna must have reached the age of seventeen. He must bring a certificate from the gymnasium that he has completed the eight years' course,† and has passed a satisfactory final examination (*Abiturienten-examen*).

The regular medical course lasts five entire years, with the exception of the two months' vacation in summer, the fortnight at Easter, and the fortnight at Christmas. With the gymnasium course, this makes thirteen years; and if we include the necessary instruction in a grammar-school, previous to entering the gymnasium, we find that the Austrian physician, before commencing practice, has to bring legal attestation to seventeen or eighteen years of study, of one sort or another. And to this statement we may add, that the process of obtaining the degrees of M.D and Chir. D. occupies a number of months after graduation; and that a very large number of young doctors seek still further to extend their knowledge by getting positions as Assistants in Vienna, or elsewhere, for a couple of years, before commencing general practice.

The most advanced standard of American medical education (if my information is correct), is that to which the College of Physicians and Surgeons in New York conforms, and which requires attendance upon three courses of winter lectures, each lasting five months—or, in other words, three half-years of study—beside certificates of "study under the direction of a practitioner of medicine" for the other three half-years. The number of years of study, before the student commences Medicine, cannot, of course, be stated; but, doubtless, in the opinion of many students, eight years *will do*.

The question naturally suggests itself:—Are the German medical students naturally more stupid than the Americans, or are they, at the close of their studies, twice as well educated? Or, again, Are they obliged to waste valuable time in learning theory, to the comparative neglect of practice? We can well dispense with the consideration of the comparative intellectual capacity of the two races; but it will be worth our while to look at the facts, as to the method of instruction here followed, and to compare them in our own minds with corresponding facts in our own system.

The student is at liberty to follow any order he chooses, in his medical studies; with the exception that, before studying Practical Midwifery, he must have studied Practical Clinical Medicine for two semesters (half-years). In general, in fact, almost always, he follows nearly the plan which is here subjoined, as given in the *Oesterreichischer Studenten-Kalender*.

The required studies—i. e., those upon which the student must pass an examination—are stated below, in connection with Rigorosa. It is difficult to distinguish them in the scheme; almost all are more or less necessary.

Semester I.—Medical Hodegetics, Descriptive Anatomy, Dissection, Mineralogy, Zoölogy, Zoötomy, General and Medico-pharmaceutical Chemistry and Structural Botany.

II.—Descriptive, topographical and comparative Anatomy, Chemistry, Botany, and Lectures on Medicinal Plants, preparatory to Pharmacognosy.

II.—Topographical Anatomy, Dissection, Physiology, General Pathology, Pharma-

VIENNA, March 29th, 1871.

* MESSRS. EDITORS,—The attention of our medical public has been of late so strongly called to the system of teaching in Vienna, that any trustworthy information has been welcomed among us. Will you permit me to lay before your readers a few facts, such as I have been able to collect on the spot?

Respectfully, Your ob't serv't,
D. F. LINCOLN.

† This course, in Austria, embraces the following studies:—Obligatory: Religion, Latin, Greek, German, Geography, History, Mineralogy, Botany, Zoölogy, Physiology, Logic and Psychology. Non-obligatory: Modern Languages, Drawing, Singing, Gymnastics, Stenography.

cognosy, General Therapeutics, Instruments and Bandages, Clinical Propædentics. And so forth.

In the fifth and sixth half-years, study under Oppolzer; and in the seventh and eighth, under Skoda (Duchek). Commence Surgery in the fifth, and Midwifery in the seventh. Space is allotted to Skin Diseases, Children's Diseases, Syphilis, Laryngoscopy, beside the list of required studies. Theory and Practice is not studied, therefore, in the first two years; nor is Clinical Surgery. A course on Percussion and Auscultation is expected to precede the study of Medicine under Oppolzer.

Are the students in earnest? Do they work reasonably hard? As regards the great majority, we must answer these questions in the affirmative. It is not much the fashion, here, to waste time in drinking and duelling, and the other refined enjoyments of the traditional "German Student's" life. The only control exercised over them, in respect to studies, is the necessity of bringing the signatures of the several Professors, inscribed in a sort of pass-book, as proof that they have attended the required courses of lectures. They must, at least, have paid for all the courses. If they attend them, they spend an average of five or six hours daily in the lecture-room; and a good student should also spend a couple of hours a day in private reading. Saturday and Sunday are official holidays, but a good many clinics are continued, and some courses of lectures are expressly advertised as given "on Saturdays and Sundays only."

Examinations for Degrees.—During the last year of study, the students' energies are constantly stimulated by the impending examinations, appropriately called "*Rigorosa.*" It is usual to pass the first, and the severest of all, within a few months after completing the term of five years. I do not find that there is anything here like the English system of "coaching" for an examination, but there is a great deal of study —of legitimate, rational study, I mean— devoted directly and specially to the end of passing the examinations. One may infer what that study is, from the following specimen-advertisement:

"For those preparing for their Rigorosum, the undersigned begins a course upon Pathological Anatomy on Monday, March 6th; Time, 5½–6½, P.M; Place, Autopsy-room. To last 7–8 weeks. Honorarium 12 fl.; 17 fl. for doctors and foreigners.

"Dr. H. KUNDRATH,
"1st Asst., Pathol. Institute."

The first Rigorosum embraces the subjects of Botany, Mineralogy, Zoölogy, Anatomy, Physiology, General Pathology, and Pathological Anatomy.

No student is admitted to examination who has not spent at least two years of the five in an Austrian University. Public disputations, and the presentation of theses, do not form a part of the Rigorosa. There are no written questions.

The Examining Board sits once a week during term-time. Students have first to show the attestation, in the form of the Professors' signatures, to the fact of their attendance upon the prescribed courses during the five years; they then, in groups of three or four, are ordered to present themselves on a given day before the Board, for examination.

Upon the day appointed, the first student, alone, enters the Rigorosum-chamber, where he meets one Professor, with the Dean of the Doctors' College, and the Dean of the Faculty. He is questioned by the first two gentlemen for ten or fifteen minutes, or until the Dean of the Faculty declares that the examination is sufficient. He then retires, is marked by the Professor, and student No. 2 comes in to repeat the same process. When all are examined upon one subject, a second Professor is at hand to examine upon a second subject, and the process is thus continued till all the subjects are disposed of. A moment's calculation will show that the examination of four students occupies from four to six hours. Afterwards, the Professors assemble, consult, and vote. A candidate may be disposed of in several ways. In the first place, he may be passed unconditionally; secondly, he may receive his degree "*cum admonitione,*" being advised that he had better look up certain branches; thirdly, he may be conditioned on one, two or three studies, and ordered to appear in from two to six months to be re-examined; fourthly, he may be compelled to undergo the entire examination anew; and, lastly, what almost never happens, he may be unconditionally rejected.

The second Rigorosum for the degree of M.D. embraces the following studies:— Chemistry, Pharmacology, Legal Medicine, Special Medical Pathology and Therapeutics (i. e., General Theory and Practice), and Ophthalmic Medicine.

An interval, which I cannot now state, intervenes between the first and second Rigorosa. The additional degree of Doctor of Surgery is taken by most practitioners, and two similar examinations have to be passed before that degree can be had; and

if the physician wishes to practise Obstetrics, he passes a fifth examination and becomes Master of Midwifery. Masterships of Ophthalmic Medicine, and of Veterinary Surgery, are also conferred.

Let us now turn our attention to the more special characteristics and advantages of the Vienna School.

Clinical Facilities.—I do not know how many patients are exhibited annually to students, but the number may be reasonably estimated at twenty thousand. The departments of Surgery, General Practice, Ophthalmic Medicine, Diseases of the Ear, Midwifery and Syphilis, have each two clinics; in Children's Diseases, Auscultation and Percussion, Psychiatria, Propædentics, there are also regular daily clinics; there are four "ambulant" or out-patient clinics in Medicine and Surgery; and each clinic undoubtedly receives two, three, or more, new patients a day. If to this we add the fact that a great many patients are shown by private teachers, "*Privat-docenten,*" we shall find that twenty thousand is an exceedingly moderate estimate.

But, is this all, in a population nearly as large as that of New York, and full of wretchedness and disease? It is not all, certainly. Taken together, the *Rudolf's Spital* and the *Gumpendorfer Spital* will contain about two-thirds as many as the General Hospital; but the students are almost entirely excluded from the two smaller hospitals. And the number of poor patients that are now treated at home for various common diseases must be very great; but the students have no opportunity of coming into contact with this class. In one sense, there is great practical advantage in concentrating a mass of material upon a spot of ground which one may walk around in fifteen minutes. It saves a vast amount of time, to have practical examples brought together in one building. Yet it may be questioned whether something like our own Dispensary system could not be made profitable to the student, in introducing him to actual practice. There is certainly a good deal of complaint made of the deficiency of this part of medical teaching in Vienna. As instruction, it is admirable; but "the student gets no chance to practise either Medicine or Surgery till after he takes his degree." Did no student ever make the same complaint in Boston?

As already mentioned, a Doctor of Medicine and Surgery may obtain, after a year's probation, the place of Assistant in some hospital, and may keep that position from one to three years. Or, he may be so fortunate as to win the appointment of Surgical Apprentice, by passing a competitive examination. I believe eight appointments of the latter sort are made annually. The apprentice has to perform almost all operations under the supervision of Dumreicher or Billroth; in fact, there could be no better practical school for surgery.

That the strictures just made are not unfounded, is shown by the universal desire, felt by professors and students alike, that the whole *Algemeines Krankenhaus* should be made accessible to the students. The subject is now open; or, rather, it may be said that the proposed step will be taken as soon as the Government of Lower Austria, which controls the hospital, will give its consent—a consent which is rather problematical at present.

In an excellent article on Vienna, published in the *British Medical Journal*, by J. F. Payne, M.B., Oxon., similar strictures are applied, much more severely, to the opportunities for clinical instruction in Berlin. Without further discussing this point, let us again state clearly the complaint that is made: it is, namely, that students do not actually have cases put into their hands to treat; and that they do not receive enough attention in the way of direct personal instruction and supervision from the clinical teachers of General Medicine and Surgery. In fact, a student's obligations in this direction cease when he has reported four medical and four surgical cases; though he may report many more if he chooses. There are only four clinical wards, for General Medicine, in the whole hospital. The Professors try to make the best of this arrangement by changing the patients frequently; but they are not responsible for the fact that only eighty or ninety beds are allotted to this study—and that students are actually excluded from visiting the rest of the hospital, except in the study of specialties.

There is another arrangement—or, rather, a want of arrangement—which is so palpably bad as to have become matter of general comment. I refer to the manner in which Oppolzer's clinic has hitherto been conducted. Students have crowded the ward, to the number of one or two hundred, roaming about at will, only occasionally getting near enough to hear an account of a case, and but seldom seeing the patient and the Professor at once. But as I write these lines, the arrangement is changing. Skoda has just retired; the torchlight-procession of near two thousand students—the complimentary, but heart-felt addresses—the new portrait on the old walls—are

matters which you will doubtless have heard of. Duchek succeeds him, but exchanges wards with Oppolzer; and a new lecture-room is to be provided for Duchek, so arranged that patients may be wheeled in and out from the wards on train-ways, when needed for clinical illustration. Skoda's clinical lectures were not crowded; the students all took seats, the ward was perfectly quiet, and the examination was conducted in a very orderly manner.

Practical Anatomy is fairly provided for. The dissection-room has nothing to boast of; it contains some sixteen tables, rather poorly lighted. The number of *whole* subjects may be 120 per annum; of subjects eviscerated in the autopsy-room, 180; beside a number of bodies of infants. A whole subject is given to two groups, of four each; a subject without viscera, to four such groups. The heads of the subjects, as a rule, are not allowed to be opened, being reserved for Hyrtl's Museum. Each student is required to register for Anatomy at least three semesters; in which time he is likely to get nine chances to dissect. If he chooses, he may register for four or five semesters.

A serious fault, to the writer's mind, lies in the fact that the student has to be examined in so many things at once—botany, mineralogy, &c.—things studied, perhaps, faithfully, three or more years previous to the Rigorosa, but which the student has had *no previous opportunity to be examined upon*. It must be a grievance to have to review the mass of old and new studies, all together, at the end of five years.

Mode of Teaching.—Text-books are recommended, but are not used to recite from. All lectures are clinical, if the nature of the subject admits of that mode of treatment. Professors and Assistants have certain rights in regard to the use of "material." Thus the two surgical and the two medical clinics have the right to any patient entering the hospital, as long as such patient is likely to be of use. Patients with certain diseases are of course sent to the clinic, or the wards, of a specialist; and all the important specialties are provided with large wards, which furnish ample material for private and public lectures. Sometimes the lecture is of the nature of a visit to the ward, with remarks by the professor; sometimes it is given in a separate room, and the patients are brought in one by one. In every case, the patient is brought so near that the student, by taking a little pains, can see, touch, auscult, or question him. Some of the *private* courses are perfect models of teaching. The instructor sits, surrounded by a dozen pupils; the patients are brought in, one by one, and each pupil *must* see—*must* answer questions—cannot help learning, in fact.

The American student is entirely independent; can go anywhere, by paying his fee (which "for doctors and foreigners" is usually a third higher than for Austrian subjects); does not need to matriculate, and comes very little in contact with the German students, unless he chooses to seek their acquaintance. He may come at almost any season of the year, and find profitable and abundant employment without delay.

The *Privat-docent* is a physician who is entitled to lecture on a given subject. He charges his own rates, and appoints his time to suit circumstances. Usually, he is able to get abundance of material from the wards to illustrate his lectures, though he cannot be said to have the absolute *right* to use the material. Private lectures are given, not only by these gentlemen, but also by Assistants and Professors. But be the lectures public or private, they are accessible to the men who can pay. At any given time, one may find here a dozen or twenty series of interesting special courses going on, and never need wait long for a new course to commence, for the usual length of the great number of courses is from three to eight weeks. These are the courses that "pay;" they are what the foreigner wants; the teachers are ambitious, and the classes are small.

The number of Ordinary Professors is eighteen; of Extraordinary Professors, twenty-four; of *Privat-docenten*, forty-four; of Assistants, twenty-nine, making a total of one hundred and nineteen, or, deducting four Assistants, who are also *Docents*, one hundred and eleven teachers.*

The growth of the "High-School" of Medicine in Vienna has been very remarkable of late years. In 1865, the number of students in the winter-term was 859; since which time it has steadily increased, until last winter it amounted to 1425. Of this large number, only 117 belonged to countries without the Austrian jurisdiction. In the official list, one hundred and eleven courses of lectures are advertised, which is an increase proportionate to the general growth of the school.

There remains the task of enumerating

* Assistants often teach without becoming Docents. This is the fact, though whether it is strictly in accordance with the statutes, I cannot say. Assistants, therefore, are here included in the list of instructors. The statistics are from this year's "Medico-Kalender."

the subjects which present the most valuable inducements to the foreign physician who thinks of studying here. The reader is requested to pardon omissions.

Children's Diseases.—The St. Anna Hospital is but five minutes' walk from the General Hospital. Here a daily clinic is held by Widerhofer. Nothing can be more satisfactory than the way in which practice and theory are alternately presented by the skilful and humane Professor. The material is exceedingly rich and instructive, and there is frequent opportunity to see autopsies.

Skin Diseases and Syphilis.—Hebra and Sigmund are at the head of these most important and valuable clinics. Their Assistants are well known to the medical world through their independent researches, and their valuable publications.

General Pathological Anatomy.—The material comprises perhaps 2400 autopsies in a year. The Assistants are very excellent instructors. It is, however, very difficult to hear Rokitansky's voice in his lectures.

General and Experimental Pathology is taught in Stricker's Laboratory. Here is an excellent opportunity to "work with the microscope" in any line of investigation one chooses, under the general guidance of a man of first-rate talents. Klein, a valuable teacher in that department, is very soon to leave for London, where he will be connected with the New St. Thomas's Hospital.

Operative Midwifery is most admirably taught. The courses are exceedingly practical, many operations being performed on the cadaver, and others on the phantom. In practical midwifery, there is no need to enlarge on the advantages offered to the diligent student. Perhaps Dublin is the only rival of Vienna in this respect.*

The Ear is taught by two very able and distinguished men, Gruber and Politzer.

The Eye.—Arlt, von Jæger, Stellwag von Carion, are the Professors.

Psychiatria.—Meynert gives a daily lecture in the Insane Asylum, usually illustrated by practical examples; the Professor presenting the patient before the class, and conversing with him as long and as freely as may be necessary in order to expose his disease. From personal observation, I should judge that the influence of this treatment was rather beneficial than otherwise. I have not yet had the honor of hearing Professors Schlager and Leidesdorf.

* We shall shortly lay before our readers a valuable paper on the Study of Obstetrics in Vienna.—Ed.

Auscultation and Percussion are well taught by several instructors.

Physiology and Higher Anatomy.—Brücke's lectures, with microscopical illustrations, are characterized by good method, and great clearness and directness.

The following names are added, without comment:

Hyrtl and Voigt—Descriptive Anatomy.

Billroth and Dumreicher—Surgery.

Oppolzer and Duchek—General Clinical Medicine.

Braun and Späth—Midwifery and Gynæcology.

Benedikt—Electro-Therapeutics.

Patruban—Surgical Anatomy.

Cost of Living.—A comfortable room, with attendance, costs from 15 to 25 gulden per month; and one's food costs, say 10 gulden per week. The present value of the pound sterling is nearly 12½ gulden, but the paper currency of Austria fluctuates like our own. Lectures cost from five gulden to fifteen or more, for a course of very indeterminate length, and most foreigners take six or eight courses in a term; say sixty or eighty gulden. The German student pays from thirty to fifty gulden a term; but good students, on proving poverty, are excused from one-half or the whole of the fees.

Lectures commence at eight in the morning, and last till seven at night. One usually hears from four to six lectures a day; owing to their clinical character, they do not exhaust the attention as they might if they were so many written prelections. And it is also very agreeable to find that the most interesting subjects do not often "collide" with each other in the time-table; one can always make a list of four or more courses of special interest, which can be heard on five days in the week.

Strangers are apt to find it very hard to get information regarding the courses. One has to go on a sort of house-hunting expedition, as it were, looking at scores on scores of bits of paper, posted in all parts of the hospital; for a great number of private courses are not advertised in the printed list. Or one goes to the various clinics, and asks the Professor, or Assistant, "when his next course begins," &c. English and American friends are very useful—*experto credite!*

The Winter-semester begins on the first of October, and lasts till Thursday before Palm Sunday; the Summer-semester begins on the Thursday after Easter, and lasts till the end of July. One can study Midwifery,

and various other subjects, perfectly well in the summer vacation.

The climate of Vienna is very variable. The Danube-fogs make the winter season exceedingly dull and depressing, but during the rest of the year there is a great deal of fine weather, liable to sudden changes to snow or rain. In the warm season, everybody sits out of doors in the evening; but it is never so hot as our New England summer. The low lands, near the canal, were overflowed a few weeks ago. If one has a special aversion to "the shakes," he will take care not to choose a lodging in that neighborhood. Consumption is excessively fatal here—whether under the name of tuberculosis or of caseous pneumonia; it is, in fact, called the Morbus Austriacus. But it is hard to tell whether the fog, sleet and rain play the chief part in producing this result, or whether the poverty, the bad habits, the unwholesome mode of life, and the crowded dwellings of the populace are not a chief cause.

In conclusion, the writer would thank those gentlemen who have most kindly assisted him in gaining information; and would advise those who have the chance, to go and see, for themselves, what Vienna is like.

CASE OF BLINDNESS—CAUSED BY GUN-SHOT WOUND—CURED BY INJECTION OF STRYCHNINE.

By Prof. NAGEL, of Tübingen. Translated by RICHARD H. DERBY, M.D., New York, Ophthalmic Surgeon to the Demilt and New York Dispensaries.

A FEW weeks ago, I published the result of my observations* for several years past on the great value, as a therapeutical agent, of subcutaneous injections of strychnine in different forms of amblyopia and amaurosis. The following case of traumatic amaurosis, where a very striking, indeed a wonderful result was attained by treatment, serves, in my opinion, to thoroughly remove all doubt as to the efficacy of strychnine, and offers every encouragement to its further application.

The patient, Heinrich Stückemann, 22 years of age, from Westphalia, was a Musketeer in the 15th Prussian Infantry, and received a gun-shot wound in the left side of his head at Mars la Tour, on the 14th of August last. In the official list of losses he is mentioned as shot through the left eye. The ball, fired at a distance of about fifty feet, struck the left upper lid beneath the eyebrow; grazing that portion of the zygoma which forms the outer orbital margin, it passed into the temple at a point half an inch distant from the outer margin of the orbit. After comminuting the zygomatic arch and the articulation of the lower jaw, the ball passed out through the external auditory canal. The left ear was deaf, the left eye blind, and the vision of the right eye much reduced. At the end of August the patient was brought to Tübingen, and since that time he has remained in the reserve hospital of this place. From the history of the case, I learned that at first there were symptoms of meningitis, which subsided. Small pieces of bone and fragments of the bullet were discharged from the wound from time to time. Subsequently, he had a slight attack of erysipelas, consequent on an operation. On the 2d of January I first saw the patient, who was then fully convalescent. The anterior wound was closed. The cicatrix, extending toward the outer orbital margin, was adherent to the bone, but did not materially affect the position or movement of the upper lid. The wound upon the lid had healed. There was considerable hypertrophy of the left cheek. The opening of the wound was situated in the auricle, just above the external auditory canal. From this opening there was a slight purulent discharge, and on introducing the sound it could be passed forward to a depth of an inch and a half, where denuded bone could be felt. The patient's general condition was good.

In the left eye there was but a slight quantitative perception of light. As the patient stood in front of a bright window, by holding the hand in front of the eye and removing it again, the difference between light and darkness could be detected. At a distance of a foot, however, from the window this was no longer possible. In a darkened room the light of a brightly burning lamp could be appreciated at a distance of a few inches. Upon carefully closing the right eye, the pupil of the left reacted very slightly to light. In the left eye the patient suffered from very frequent subjective appearances of light; vertical black lines seemed to hang before this eye, and sometimes bright phosphenes crossed the field of vision.

The acuity of vision of the right eye was reduced to about one-fourth. The patient could read Jaeger No. 5, when held close before the eye. It was impossible to read even a larger type continuously; for in a few minutes the eye became fatigued, and

* Centralblatt für die Med. Wissenchaften, 1870, No. 55.

subjective appearances of light, which were awakened in the left eye, disturbed the visual act. Although the condition of the right eye had of late been much better than it was for several months after the receipt of the wound, still the patient could not use it continuously, and was incapacitated from doing his work as a weaver. There was marked concentric limitation of the visual field.

Externally, there was very little abnormal about the appearance of the eyes. The left pupil was somewhat larger than the right, and sluggish. The iris of both eyes was gray; that of the right at one portion was brown, but presented the same appearance that is so commonly found in congenital difference of color. Still the patient was firmly of the belief that this discoloration was a consequence of the wound. The ophthalmoscopic examination of the left eye showed on the lower portion of the anterior surface of the cornea two small, dark points. The vitreous humor was not entirely clear, causing a slight cloudiness in the appearance of the optic disk. Near the papilla in the posterior portion of the vitreous was a small spindle-formed body, of a grayish-blue color. The peripherical portions of the fundus appeared normal, the retinal veins somewhat injected. The optic disk was slightly reddened, and on its centre along the central vessels were several white striate opacities. The large vein that passes upward to the papilla was concealed by a whitish opacity over its whole course, except at the point where it penetrates the optic disk. The central artery and its principal branch, directed downwards, appeared for a short distance enveloped, as it were, in fine, white, glistening lines. The zone immediately around the papilla was slightly opaque, but the outlines of the disk were not obscured. All of these changes were slight, but in the upright image became more manifest. The appearance of the fundus of the right eye was much the same as that of the left. In the posterior portion of the lens was a small black point, the nature of which was not entirely clear, although one involuntarily thought of a grain of powder. The lens was not as transparent as the youth of the patient might have led one to expect. The optic disk had the same appearance as that of the left eye, save that the whitish opacities here obscured the arteries rather than the veins. In the centre of the disk was a sharply defined physiological excavation, over the edges of which the vessels curved. On the papilla of the left eye there was but a trace of such an excavation.

It is impossible to imagine precisely how the chassepot-bullet, coming with full force as it did, affected the eyes. Certainly neither the right eye nor the left was struck by the projectile, and the loss of vision must have been caused by the shock which the eye received from the bullet striking the bone and by the concussion of the air. It is not improbable, however, that several minute fragments of powder or dust were driven into the eyes, for in both of them are several small dark points that have all the appearances of foreign bodies. The spindle-shaped object in the vitreous humor of the right eye might have been an encapsuled foreign body. Still, the blindness of the left eye and the disturbance of vision in the right were by no means explained by the action of this slight direct injury. The inconsiderable changes in the optic nerve were the products of previous inflammation, which could itself have been of no great intensity. We are thus compelled to admit the existence of a functional paralysis, with no evident anatomical change. Accepting this view of the case, there seemed to be ground to hope for a recovery, or at least for an improvement of vision. The favorable color of the optic disk and the slight persistent pupillary reaction in the left eye encouraged this hope. My previous experience in the action of strychnine induced me to make a favorable prognosis. Still the great severity of the concussion and the nearly complete blindness of the left eye, which had already lasted a long time, led me to promise but a slight improvement in this eye. My expectations, however, were more than realized.

On the 5th of January, I began the treatment with an injection of .002 grm. strychnin. nitr. in the left supra-orbital region. Fifteen minutes afterward, a slight clearing up of the visual field of the left eye showed the commencing action of the drug. In half an hour the difference between light and darkness could be recognized when the patient stood at a distance of several feet from the window; the light of the lamp, that he had previously seen with this eye at a distance of only a few inches, he now recognized when held two feet off.

On the 6th of January, the patient stated that the evening before, he had been able to read more easily and with the book at a greater distance, and that the subjective sensations of light in the left eye were less annoying than before. I made then a *second*

injection (.0025 grm.) in the right temple. Half an hour afterward he could recognize daylight when standing at a distance of 4–5 feet from the window. The lamplight he appreciated when it was held 3½ feet off.

On the 7th of January, the vision of the left eye had improved still more. The patient could see the light of a lamp when held at a distance of 4½ feet; he could count fingers held close before the eye.

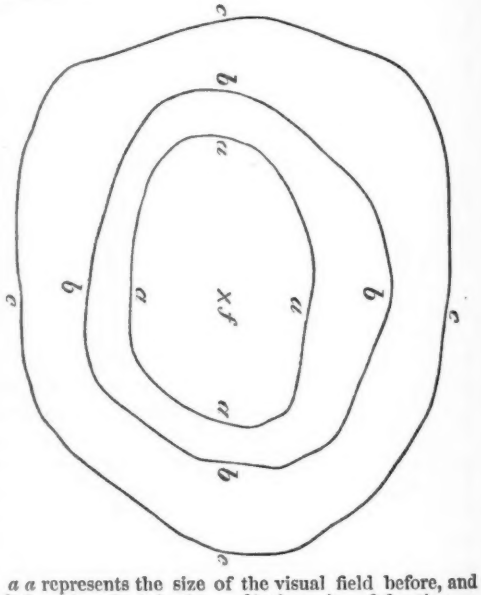
The *third injection* (.0027 grm.) I made over the left eyebrow. An hour after this, he could count fingers when held at a distance of 1½ feet. The visual field was still very much limited. An examination with colored papers, none of which he had recognized the day before, showed a still greater progress. Yellow appeared to the patient a bright white, green seemed blue, and the other colors appeared black. A bright orange red was recognized as red.

On the evening of this day, the improvement was greater still, but on the 8th of January the change was very marked. He could recognize the light of the lamp, held at a distance of 10 feet, and could count fingers at a distance of several feet. He could see the largest of Jaeger's test types, and with the aid of convex 4 he could make out words of Jaeger No. 15. The visual field was enlarged in every direction; excentric vision showed a corresponding improvement. I now made the *fourth injection* (.003 grm.) in the right temple, and in the course of the following hour he could read Jæger No. 10, with the aid of a strong convex glass. He now recognized all colors. The vision of the right eye had improved, too. Without any glass, he could read with this eye, Jæger No. 1, the acuity of vision being about ½.

On the 9th of January, the improvement was still more striking. With the left eye, with convex 4, he could read Jæger No. 1, to be sure with difficulty, and with the type held at a distance of a few inches from the eye; with convex 12 he could read Jaeger No. 3. Soon after the *fifth injection*, which was now made, he could read Jaeger No. 2 without any glass; in order to read No. 1 a convex glass was necessary. In a period of four days the acuity of vision had been brought up from a weak perception of light to the reading a diamond type! To be sure, the treatment was not yet completed; the vision was still reduced, and there was a pronounced concentric limitation of both visual fields.

On the 10th of January the *sixth injection* was made, and a subsequent improvement of vision was noticed. With the left eye he could read, without any glass, Jaeger No. 1 at a distance of six inches. Weak concave glasses improved the acuity of vision for the distance. With –36 the patient could read Jaeger 21, when held at a distance of thirteen feet. In the right eye there was slight hypermetropia.

Up to this period, the treatment had caused no unpleasant symptom whatever. On 11th of January, however, as the patient complained of some sensibility of the left eye, no injection was made. On the 12th, as there was no complaint, the *seventh injection* (.003 grm.) was made. The acuity of vision of both eyes now improved. With the right eye, he could read Jaeger No. 15 at a distance of thirteen feet. Vision almost normal. With the left eye, Jaeger No. 18 at a distance of thirteen feet. Vision one half. The improvement of the peripherical vision was still more interesting. A careful drawing of the field of vision was made, both before and after the injection, and upon comparing these two it appeared that in the course of three-fourths of an hour, each visual field had become enlarged about 10° in every direction. The vertical diameter of the visual field of the right eye had increased from 51° to 64°, the horizontal diameter from 68° to 81°; in the left eye the vertical diameter had increased from 33° to 54°, the horizontal from 56° to 69°. The figure shows the extent of the visual field of the left eye, both before and after the injection.



a a represents the size of the visual field before, and *b b* that after the injection. *f* is the point of fixation.

On the 13th of January, the following morning, the visual field had again increased

in extent (*c c* in the figure) and after the *eighth injection*, which was made on the same day, the vertical diameter of the visual field measured 100°, the horizontal 110°.

On the 15th of January the *ninth injection* was made, and was followed again by an increase in the extent of the visual fields, which now had reached their normal size. Moreover, the peripherical acuity of vision, which had been regularly improving, was now nearly normal. The patient could read Jaeger No. 1, when held at a distance of seven inches, and Jaeger No. 17 at twelve feet distance, and the treatment could fairly be regarded as over. I have no doubt, however, that the acuity of vision will still improve, and, judging from my previous experience, that the result attained will be permanent.

In conclusion, I would say that during the time that strychnine was used, the patient suffered from no unpleasant symptom, nor was there any disturbance of his general health. The treatment was attended with no discomfort, save once or twice there was a little sensibility of the left eye and a feeling of pressure in the forehead, which soon passed away.

The treatment had no effect upon the deafness of the left ear, a matter of no surprise, as the auditory nerve was in all probability injured through fracture of portions of the temporal bone.

Injuries of this kind are no rarity, and in the hope that others may profit by my experience, I have hastened the publication of this case. This result of treatment is not the first, but one of a considerable number, and serves as a warning to us not to dismiss such cases as incurable; and in view of the few remedies we have to combat such affections, it entitles strychnine to consideration as an agent easy of application and without danger in the hands of an intelligent physician.

Compression of the Ovaries as the Cause of Hysteria.—The *Gazetta Medica Ital-Lombard* says that Dr. Chairon has traced hysteria to compression of the ovaries by inflammation or otherwise. This, he thinks, paralyzes the reflex actions of the epiglottis, and so narrows the opening of the larynx and thus gives rise to the feeling of suffocation. We fancy that we have previously heard a good deal about the connection of the diseases of the ovaries and throat, and that these observations only confirm what others have stated.—*The Doctor.*

Selected Papers.

FRACTURED RIBS IN INSANE PATIENTS.

By George J. Hearder, M.D., Medical Superintendent, County Asylum, Carmarthen.

During the past year (1870), twenty deaths have occurred in the Carmarthen Asylum; and the following notes have been made regarding the state of the ribs and sternum in each case:

In ten instances the bony frame of the chest was in a moderately healthy condition; in the remaining nine an abnormal and diseased state was found to exist.

1. E. H., aged 61, female. Dementia. Ribs thin, soft, and very easily broken by the fingers.

2. W. M., 61, male. Chronic mania. The ribs were soft; greatly deficient in inorganic matter; easily bent to a right angle; and the fracture thus caused was imperfect, the periosteum remaining uninjured, no displacement of the bone at the seat of injury taking place, and no crepitation being elicited by ordinary manipulation. While removing the sternum it broke across at the level between the second and third ribs. The compact structure forming its surface was very thin and brittle; the cancellated portion was soft and spongy, and easily crumbled between the fingers, while parts of it were broken up and mixed with sanguineous pus. This man's sternum could readily have been fractured during life by pressure with the palm of a hand, or even by the point of a finger. The ribs were easily cut by an ordinary knife.

3. P. B., 68, male. Dementia with paralysis. Ribs very soft; easily broken, *in situ*, by slight force with a finger and thumb. Character of fracture the same as in the last case.

4. M. P., 36, female. Puerperal mania. Her ribs were in an abnormal state, thin and soft, and could be readily broken by the fingers. After removing the sternum and thoracic viscera, a rib was broken in the presence of one of the Carmarthen surgeons. The sternal end of the broken bone was supported while he examined carefully the outside of the chest; yet, though he knew exactly the position of the fracture, he was unable by manipulation to detect crepitation or any other sign of its existence. I mention this to show the difficulty, or rather the impossibility of detecting fracture of the ribs in certain cases occurring

amongst the insane. The notes on case 6 also bear on this point.

5. C. M., 70, male. Dementia. The sternum and ribs were greatly deficient in inorganic matter; and the ribs could easily be bent to right angles.

The character of the fractures produced in the above five cases were identical.

6. A. W., 69, female. Dementia. Two surgeons from Carmarthen witnessed the post-mortem examination. The sternum broke across, between the second and third ribs, during removal. Its structure was similarly changed as in case 2. The ribs were very soft, and easily broken by the thumb and forefinger. The walls of the chest were scarcely more resistant than a sheet of ordinary card-board. A portion of a rib from this patient was submitted to Dr. Dyster, one of the visiting magistrates of this asylum, and he reports as follows: "I have carefully examined the portion of rib you sent me. It appears to be of about the strength of stout card-board, and I apprehend would be fractured with as little difficulty. I do not see that there would be any means during life of detecting such a fracture without the use of such violence —or say force—as would be likely to produce it, if it did not already exist. I think the bone you sent me might be fractured by a very trivial cause—say falling suddenly against a table at which the person was seated, or any trifling accident of such a nature."

7. W. E., 56, male. Chronic mania. Ribs very fragile, and, with scarcely an exception, had all been fractured at various times. Each fracture was united by firm bony structure. The pleuræ were healthy.

8. H. G., 52, female. Acute mania. The sternum broke across during removal at the level between the second and third ribs. The surfaces of the bone were very thin; the cancellated structure at the seat of fracture was partially absorbed, leaving a cavity which contained unhealthy pus. All the ribs were thin, narrow, and broke with very slight pressure between the thumb and forefinger.

This patient had been in the asylum only about a month; and during the whole of that time had been very restless and excitable, and had frequently bruised herself by knocking her head against the wall, and in other ways. During the morning of the day of her death her restlessness and violence were such as to require the constant and undivided attention of two attendants. She died suddenly, and a coroner's inquest was held to ascertain the cause of her death. The examination of the body was made by Mr. Rowlands, F.R.C.S., of Carmarthen, who has made remarks of considerable value as to the state of her osseous system. They are as follows:—"I wish now to draw your attention to the following discovery I made whilst conducting the examination. In opening the chest and lifting up the sternum (the clavicles had not been disarticulated from it) I was surprised to find the bone at its junction to the upper piece bending and slightly cracking, rather than snapping asunder, as it usually does; and from the cracked surfaces about a teaspoonful or more of thick, red, grumous matter issued. I then exposed the ends, and found them soft and spongy. I next examined the conditions of the ribs, and was not a little astonished to find, upon bending them, how easily they broke. I tried four or five of the upper ribs on both sides, beginning at the third, and they all broke much in the same way, with very little force. The ribs were thinner and darker than natural, and the fractured ends had not the usual spicular appearance. Each rib bent first, and then gave way much like a piece of mill-board. I am convinced that if much restraint had been required for this poor woman, very little force, over the chest, would have sufficed to crush it in. The subject of broken ribs at asylums calls for, I think, especial inquiry; so many cases having lately occurred at different asylums that much uneasiness has thereby been created in the public mind, and has led to the belief that the poor creatures, who are placed in those institutions, do not receive the kind and gentle treatment they are entitled to; and that the supervision is left too much to those who have but little interest in their welfare, and who resort to physical rather than moral force to restrain the obstinate and refractory, and in their (the public) opinion the broken ribs are thus accounted for. Is it not possible and even probable that the diseased condition of the brain in insane persons, may have some influence on the nutrition of bone? The state of this poor woman's bones would certainly lead to that conclusion. It is a subject worthy of grave consideration and diligent investigation."

Observation of the nature of the fractures produced in the above eight cases has convinced me that had any of the ribs been broken during life the injury could not have been detected before the post-mortem examination was made. As regards treatment, however, this is no drawback, there being no displacement, and no complete

solution of continuity, the necessity for employing a bandage is not urgent, and its absence cannot be prejudicial. Of course I do not mean in the smallest degree to insinuate that a bandage should not be applied if a fracture is discovered, or even if there is reasonable ground for supposing it exists.

In three cases there was disease of the sternum; and it is worthy of note that the abnormal condition was most marked at the same point, the level between the second and third ribs, in each case. Had a very small amount of force been applied over the chest of either of these patients during life a fracture would certainly have been caused; and the diseased condition would then, doubtless, have been attributed to the injury, and probably some innocent and worthy attendant held up to general opprobrium, or even, in the present morbidly excited state of public opinion regarding asylums, tried for manslaughter or murder.

9. The last case I have to remark on, the first which attracted my notice to the subject under discussion, has already occupied a large share of public attention.

On observing the fractured ribs in the case of Rees Price, I at once jumped to the conclusion that the injuries must have been caused by great violence applied to his chest by some persons or person other than himself; and that the pleurisy from which he had suffered was a result of the injuries thus produced. Further consideration of the facts of his case, viewed in the light of the results obtained from subsequent post-mortem examinations, affords evidence that both these conclusions are likely to be erroneous.

It is much to be regretted that the condition of the bones, as regards their fragility, was not carefully observed; yet, I imagine, sufficient facts can be adduced to prove that they were in a normal state. It was ascertained that there was no laceration of the soft textures at the seat of injury, no extravasation of blood, and no formation of callus or of pus. Further, that the fractures were all incomplete, the motion in each bone being that of a simple hinge; there was no displacement; and even after the removal of the sternum, no crepitus could be produced by manipulation. Can it be supposed that eight ribs of normal consistence could be fractured without causing such an amount of injury to the surrounding soft parts as would necessarily be indicated by sanguineous effusion?

The injuries were doubtless caused by force applied over the front of the chest, bending the ribs, and increasing their natural convexity.

There is no evidence to show that this patient was subjected to violent usage. There is abundance of proof that he was extremely restless, and that he was unable to stand without assistance during at least a week before his death. If, then, it be admitted, from observation of the nature of the fractures, that his bones were in an abnormal and softened condition, it is possible, nay, even probable, that the injury might have been caused by a fall on some flat surface.

It is no unusual occurrence for patients, who are affected by cerebral softening, to suffer, during the last days of life, from broncho-pneumonia. This condition is not rarely complicated with pleuritis, and was so found to have existed in the case of Rees Price.

Inasmuch as I cannot see how injury to the bony case of the chest, which has been insufficient to hurt the immediate lining of the bones, should yet be sufficient to cause inflammation of the subjacent membrane, it appears to me probable that the intra-thoracic disease, which existed in this case, was caused solely by defective nutrition of the parts affected.

If this case, as I believe, was another instance of the softened condition of the bones of the insane, then nine out of twenty examinations have resulted in the discovery of a markedly diseased state of the osseous system; and it is to be observed that this condition is not confined to any form of disease, or to any particular age, and that it is found to exist in both sexes.

Much unmerited odium has been lately cast on asylum officials; and for the misconduct of one or two the whole class has been condemned. To me it appears marvellous that such a state of the bones, as related in the above cases, should have existed in patients who were often highly excited and violent in their actions, without the occurrence of fractures; and it is certainly indicative of the very great care that must invariably have been exercised towards them by the attendants under whose charge they were placed.—*Journal of Mental Science.*

By special arrangement with the English publishers and editors, Messrs. D. Appleton & Co. have in preparation the works of the late Sir James Y. Simpson, Bart., in three volumes.

Medical and Surgical Journal.

Boston: Thursday, April 27, 1871.

IMPORTANT CHANGES IN THE MEDICAL DEPARTMENT OF HARVARD UNIVERSITY.

Our advertising columns have already laid before our readers the details of a movement, long contemplated by the Medical Faculty of the University, which cannot fail of being of great importance to the cause of medical education; as such we are confident it will be hailed with pleasure by those members of the profession who seek its true advancement. In this light it marks a new era in the history of American medicine, and gives a value to the medical degree which it has never yet known in our country.

The excellent introductory address of Dr. White before the medical class last November, foreshadowed changes which had long had a vague existence in the minds of the profession; it was simply the echo of active thinkers in the schools of the old world; it was the laying out of a plan which the constant progress in medical education is forcing us to. The intelligent recognition of these advanced views by the Faculty we are sure will place our University where she belongs—on a level with the best of the foreign schools and inferior to none of those in our own land. We beg our readers will turn to our Student's Number and give the address in question a careful re-perusal.

"In the first place we should be able to systematize our instruction, now wholly impossible when individuals may begin their studies at all times. * * * * We should equalize the value of our degrees. * * * * Now Harvard University puts the same stamp of approval and warranty on both. And we should enhance the value of our degree a hundred fold. As it became known that this school had ceased to compete with others in a system so well adapted to make the most rather than the best physicians, that it required a certain preliminary training before it received students, and kept them long enough to educate them thoroughly before it let them go, and that its degree meant something quite apart from that of other schools, this certificate from the oldest university in the country would be sought by the best class of students from all parts, as is that of its other departments, and its graduates would at once assume a distinctive position in the profession. This would force the best existing schools in turn up to a higher level, and thus the character of medical education would be gradually rescued from its present deplorable condition. Such, I believe, would be the happy results of such a reform."

The suggestions of Dr. White, in these few words, give the key-note to the changes which have been instituted. In the practical carrying out of the plan, we look for changes—not only in this University, but in all the medical schools of the land—which will give added dignity to the profession and make its degree truly one of honor.

In brief, medical education in Harvard University is to be thoroughly systematized and its standard elevated; and the attainment of a degree is to be determined by rigid examinations at stated periods, which will *compel* a more thorough preparation for the responsible duties of the physician.

In previous years the only actual requisite for a degree was that the student should have studied medicine for three years and attended two courses of lectures, one of them in Boston. A man may have spent the larger part of his time on a farm or in a workshop; he may or may not have had a preliminary literary education; he may or may not have attended the lectures of which he held the tickets. It was in fact only requisite that he pass the lenient examination of the Faculty, and he was at once launched into the world a doctor of medicine. Hitherto the University has taken *on trust* that the requirements of study have been fulfilled; it now refuses to grant its degrees unless, by an acquaintance with the student for at least a year, by constant provings of his knowledge by rigid examinations, and by a final examination of a character not hitherto essayed, it *knows* the student to be fitted. *Quos idoneos scio*, we are sure, will have a new emphasis in the mouth of the Head of the University when he presents such students to the Corporation for their approval.

The School is to be organized in three classes, and prescribed recitations, practi-

cal exercises and lectures will be pursued by each successive class. The course of study will be as follows:—

For the first year—Anatomy, Physiology and General Chemistry.

For the second year—Medical Chemistry, Materia Medica, Pathological Anatomy, Theory and Practice of Medicine, Clinical Medicine, Surgery and Clinical Surgery.

For the third year—Pathological Anatomy, Therapeutics, Obstetrics, Theory and Practice of Medicine, Clinical Medicine, Surgery and Clinical Surgery.

It is optional with students to continue in the school for three years, but at least one *must* be spent here. During each year oral and written examinations will be held in the branches studied; to join the class of the second or third year, a satisfactory examination must be passed in the studies of preceding years. The regular examinations will be held in the following order:—

At the end of the first year—Anatomy, Physiology and Chemistry.

At the end of the second year—Medical Chemistry, Materia Medica and Pathological Anatomy.

At the end of the third year—Therapeutics, Obstetrics, Theory and Practice of Medicine, Clinical Medicine, Surgery and Clinical Surgery.

Such a thorough organization in the curriculum must necessarily give to the medical student the *opportunity* to go over the whole ground of medicine; it will not leave him uncertain where to begin and what to study, or in doubt of his own practical ability to enter on the duties of the profession. In this way only can the suggestion be carried out to systematize medical education.

Finally, we note, with pleasure, the requirements which the Faculty will insist on before granting the degree of Doctor of Medicine: such a period of study here in the school itself as shall acquaint the Faculty with the true value of the student's capabilities, and such examinations, at intervals and finally, as shall prove him to have profited by the instruction given. The University, by these changes, throws off the imputation of seeking to turn out a large number of doctors; on the contrary, it has the honorable distinction of leading the van among American medical schools in substantially elevating the standard of education. It will send forth medical men inferior to none in the land, and will receive the respect of the profession both at home and abroad.

The Brighton Butchers.—We make extracts from an article in the Boston *Daily Advertiser* on a subject which is of great interest to the residents of our cities and large towns. The sluggishness of the popular mind, when matters of public health and hygiene are in question, certainly needs amendment:—

"Although some discussion was excited by the publication of Dr. Derby's observations at Brighton two years ago, and the legislature went so far as to authorize the formation of an abattoir corporation, the long-suffering public was not aroused to a sense of the danger, and the indisposition of the butchers to reform their slaughtering system defeated the efforts of the gentlemen who endeavored to remedy the existing evils. Nothing but a catastrophe, it seems, was capable of fastening public attention upon the evils of the slaughter-house system. The testimony at the inquest on the deceased butcher, coming from men engaged in the business, has produced an effect which the statements of outside observers never could have created. The abominations which were described, correctly and without exaggeration, in the first annual report of the board of health, are proved to be inherent to the present system of preparing the meat for market. A radical change in the method of conducting this business is now indispensable. In the report referred to, the true and sufficient remedies for the evils which Dr. Derby described was pointed out, and it is hardly possible that their adoption shall be longer deferred. The report suggested as a means of reform, first, that the business of slaughtering should be concentrated by requiring that it be done in an abattoir, where every butcher should do his own killing and dressing, subject to such rules as health and humanity require. Secondly, the inspection of meats (as well as fruits and vegetables) in the Boston markets, in the same way that milk is now inspected, by competent persons, paid for the duty. These two provisions cover the whole ground, and if enforced would secure the protection of the public from the liability of purchasing unsound or unwholesome meat. The cruel treatment of the animals during transportation, which is the prime cause of most of the disease and in-

fection among the cattle, could not be reached of course by any local enactment. National legislation must be depended on for a reform in this respect. But by the construction of an abattoir it would be easy to prevent the slaughtering of any exhausted, maimed or diseased animals. All such animals would have to be kept until they were well, before being killed for food.

"As the business is now conducted it constantly happens that the cattle are 'killed to save them' from still greater loss or from death. Animals are very frequently received in an exhausted or dying condition, from the effects of having been trampled on in the cars, and from sickness contracted on the passage; and under the present system it is impossible to prevent the meat of diseased animals being sent to market, otherwise than by placing an inspector in each one of the forty or more slaughter-houses in Brighton. In no other way can the final disposition of a sick or dead ox be surely traced. Even a dead ox represents a certain amount of hide and tallow, and the man who takes him away, ostensibly to secure this value, may also send the meat to Faneuil Hall, for neither butcher nor doctor can distinguish such meat, in many cases, from that of an animal killed in health. A sick animal can be recognized; the meat of a sick animal very often cannot be recognized. Thus the people are at the mercy of the butchers. It is said that one butcher at Brighton has had a dray constructed for the special purpose of conveying animals that are too far gone to be able to walk from the cars to the slaughter-houses. A rich man may be able to pay prices that will provide him, through known butchers of honorable standing, with wholesome meat, but the poor, who must buy meat at moderate prices, or none at all, cannot surround their table with such safeguards, and are wholly unprotected. But whether rich or poor, there is no man who is obliged to patronize the markets that will not lift up his voice in favor of the change in the system which it is hoped is now about to be effected.

"The representations made by the State Board of Health to the legislature a year ago led to the passage of an act authorizing certain parties to construct an abattoir containing every needful provision for the public safety, but up to the present time the opposition of the butchers has prevented its establishment. It looks as if the erection of this building was not much longer to be deferred. Public opinion demands a change, and powerful influences are at work to secure the needed funds for the organization of the corporation. It is no longer optional with the butchers whether an improvement shall take place. During the present session of the legislature a petition was presented from the authorities of Cambridge, Medford, Somerville, Watertown and Waltham, asking for the better regulation of slaughter-houses and other places where offensive trades are carried on. A bill was accordingly passed, containing stringent provisions, and giving the officers of the Board of Health ample power to regulate the obnoxious occupations. It was signed by the governor on the 8th instant, and furnishes a timely method for the regulation of the slaughter-houses. It is entitled 'An Act concerning slaughter-houses and noxious and offensive trades,' and its two most important sections are as follows:—

"'SECT. 2. Whenever in any city or town containing more than four thousand inhabitants any building or premises are occupied or used by any person or persons or corporation for carrying on the business of slaughtering cattle, sheep or other animals, or for melting or rendering establishments, or for other noxious or offensive trades, the State Board of Health may, if in their judgment the public health or the public comfort and convenience shall require, order any person or persons or corporation carrying on said trades or occupations to desist and cease from further carrying on said trades or occupations in such building or premises, and any person or persons or corporation continuing to occupy or use such building or premises for carrying on said trades or occupations after being ordered to desist and cease therefrom by said Board, shall forfeit a sum not exceeding two hundred dollars for every month he or they continue to occupy and use such building or premises for carrying on said trades or occupations after being ordered to desist and cease therefrom by said Board as aforesaid, and in like proportion for a longer or shorter time: provided, that on any application to said Board to exercise the powers in this section conferred upon them, a time and place for hearing the parties shall be assigned by said Board, and due notice thereof given to the party against whom the application is made, and the order hereinbefore provided shall only be issued after such notice and hearing.

"'SECT. 3. The Supreme Judicial Court, or any one of the justices thereof, in term time or vacation, shall have power to issue an injunction to prevent the erection, occu-

pancy, use, enlargement or extension of any building or premises occupied or used for the trades or occupations aforesaid, without the written consent and permission provided in section one of this act being first obtained; and also in like manner to enforce the orders of the State Board of Health issued under section two of this act.'

"Here is power enough to purify Brighton, and it is understood that the officers of the Board will not be reluctant to make use of it, if public necessity requires. If the butchers see fit to make Brighton what it is capable of becoming by their own efforts, there will be no process of law. They will need to abolish their foul hog-pens, reeking with bloody offal, and tainting the air for miles around, and build a noble abattoir, with every provision for health and convenience, which shall give security to the consumers of meat, and be a model for other communities to imitate.

"Although the State Board of Health was, according to its original plan, an advisory and not an executive board, the character of its members furnishes assurance that they will fully carry out the instructions with which the present Legislature has provided them. What in the opinion of the board may be the requirements of 'public health or public comfort and convenience,' in connection with the business of slaughtering for the Boston market, can be readily ascertained from the first annual report, issued last year. The law of 1871, having been passed on the 8th of April, goes into effect on the 8th of May, so that the public need not expect to wait very much longer for the reformation of the slaughter-houses."

Vaccine Disease and its Train. *Messrs. Editors,*—The following extract from an editorial in the London *Medical Times and Gazette* for April 8th, 1871, page 397, rather startles some of us whose neighbors have been showing very, *very* sore arms:—

"No one of any authority that we know of has advocated the substitution of heifer vaccination for vaccination from arm to arm in this country."

Well, that comes from pretty near Miss Vaccinia's home. Let us think about it. The best way perhaps is to ask questions.

What has all the vaccine excitement been about?

Do physicians use any less caution in vaccinating than they did formerly?

Has the virus which they have been using lost its virtue by transmission?

Does the smallpox, or the scarlet fever, or the measles, or syphilis lose its virtue by frequent transmission?

Is vaccinia an exception in the list of contagious diseases?

If not, why resort to the cow for a supply, that surely makes very sick arms?

Is it for fear of transmitting humors, if we use the humanized lymph, that the cow lymph is preferred by some?

If so, do we not also run the risk of inoculating some of the humors of the cow, or of the horse?

How about the foot and mouth disease, said to exist to such an extent that Mrs. Smith wont eat beef? Can that be transmitted to our darling little ones?

Horsepox, cowpox, manpox. Can these be passed from man to man and the last alone retain its force?

Can the horse-pox be passed from cow to cow and from man to man, and while it poisons with human humors never give to our precious babes the glanders nor the rotten hoof?

I think, friend B., that for the present I shall use the humanized vaccine virus of the best stocks, which I think can be got from almost any of our brethren for the asking.

Questioner.

New Hot Water Apparatus for Hospitals, &c.—A new system for a continuous supply of hot water and hot air has just been patented by Messrs. Comyn, Ching and Co., of Long Acre, which consists of a small, tubular boiler, eleven inches square, and two and a half inches deep, fixed at the back of an ordinary stove communicating with a large conjunctive boiler placed at any convenient adjacent position. A pipe from the house cistern conveys cold water into the conjunctive boiler, whence it rapidly circulates through the tubular boiler, returning at once thoroughly heated to the conjunctive boiler, at a higher level than that of the incoming cold water, the pressure of which forces the hot water all over the building by means of an ascending pipe that can be tapped at any part of its length. The unused hot water returns by a third pipe to the conjunctive boiler, whence it again passes through the tubular boiler and recovers the heat it has lost in its passage through the house. Its constant circulation is thus kept up by the pressure of the cold water contained in the house cistern. Should this become empty, the cessation of pressure prevents any water from leaving the conjunctive boiler which always remains full, thus avoiding all risks of explosion.—*Dublin Med. Press and Circular.*

Medical Miscellany.

MIDDLESEX SOUTH DISTRICT MEDICAL SOCIETY.—At the annual meeting of this Society, held April 19th, the following officers were elected for the coming year, viz.:—*President*, Howland Holmes. *Vice-President*, T. P. Robinson. *Secretary*, C. E. Vaughan. *Treasurer*, J. W. Willis. *Supervisors*, Alfred Hosmer, W. W. Wellington, B. F. D. Adams. *Commissioner on Trials*, Enos Hoyt. *Councillors*, Morrill Wyman, A. Mason, J. Renton, G. J. Townsend, H. O. Marcy, H. Cowles, A. C. Webber, S. H. Hurd, J. C. Harris, S. Richardson, G. A. Warren, L. B. Morse. *Censors*, Z. B. Adams, A. W. Whitney, H. C. Chapin, H. P. Walcott, J. B. Taylor.

PRIZE ESSAY.—Dr. Lyman Ware, of Chicago, has obtained the prize of $100 offered by the Alumni Association of the Chicago Medical College for his essay on "Antagonism between Opium and Belladonna." The Association again offers a prize of $100, to be governed by the same rules as before. Of the above sum, Dr. N. S. Davis gives $50.

MORPHIA AS A PARTURIENT.—In successive numbers of the *Chicago Medical Examiner*, Drs. Robson and Vance advocate the use of sulphate of morphia in parturition, considering its action similar to that of ergot, whether given in a state of natural or unnatural pregnancy. Dr. Vance found that, in cases of threatened abortion, the parturient throes were immediately increased and delivery was the result.

BEAR'S FLESH AT ROMAN DINNERS.—The bear was eaten by the Romans, but it is clear that it was considered a rarity, and not relished by everybody. In the famous narrative which Petronius gives of the dinner at Trimalchio's, he represents a man who had dined at another house dropping in to dessert, and describing the feast he had had at the house he had just left. "We had," he said, "a joint of bear, which my wife Scintilla was rash enough to taste, and almost vomited up her gizzard. On the other hand, I ate more than a pound of it, for it tasted like boar itself; and for my part, I say, that if bear eats man, man has a much greater right to eat bear."—*London Med. Times and Gazette.*

A NEW TEST FOR THE PHOSPHATES.—Dr. Heisch found that sugar was a very delicate test for water contaminated with sewage, its addition showing in a short time, with the aid of the microscope, some very characteristic fungoid growth. Dr. Frankland corroborates Dr. Heisch's results. But he has found that the presence of sewage matter alone in water is not sufficient to produce this singular result. It must be accompanied by the presence of some of the phosphates. He also finds that germs from the atmosphere in company with phosphates yield similarly formed cells. The conclusion therefore is, that though sugar is not a reliable test for sewage matter, it is likely to prove a wonderfully delicate indication of the existence of phosphates.—*Med. Press and Circular.*

TRACHEOTOMY.—Dr. T. Green has related the case of a little child on whom tracheotomy was agreed to be performed. The operation did not relieve the symptoms under which the child labored, and the child subsequently died. A *post-mortem* examination revealed that the *trachea had not* been entered, and the canula lay in front, and close to its rings. Dr. Green states that the surgeon who operated was expert, and a most experienced operator, but his method was to endeavor to pierce the trachea, by pushing a lancet through the *skin and coverings, right into the tube.* He had often done so previously, and the failure in this case may act as a warning in future.—*The Doctor.*

CORRECTION.—In our issue of last week we failed to credit the College Courant of New Haven the extracts made by it from the Philadelphia Press on the Purchase of Honorary Degrees; and to the American Journal of Syphilography and Dermatology the article on a case of Visceral Syphilis, translated by the Editor from the Archiv für Dermatologie und Syphilis.

PAMPHLETS RECEIVED.—Twenty-second Annual Announcement of the Woman's Medical College of Pennsylvania. 1871-72. Pp. 16.—On the Study of Dermatology. By Louis A. Duhring, M.D., Physician to the Dispensary for Skin Diseases, Philadelphia. Pp. 10.—Tenth Annual Report of the Board of Managers of the Woman's Hospital, of Philadelphia. Pp. 16.—Letters to "The Times" on Smallpox Encampments, and a Word on the Contagious Diseases Acts. By Surgeon-Major T. Atchison. London. Pp. 16.

Deaths in fifteen Cities and Towns of Massachusetts for the week ending April 22, 1871.

Cities and Towns.	*No. of Deaths.*
Boston	91
Charlestown	11
Worcester	22
Milford	1
Chelsea	11
Cambridge	10
Salem	7
Lawrence	5
Springfield	7
Lynn	10
Fitchburg	4
Taunton	5
Newburyport	4
Somerville	4
Fall River	19
Haverhill	5
Holyoke	8
	224

Prevalent Diseases.	
Consumption	43
Pneumonia	29
Scarlet fever	11
Croup and Diphtheria	10
Typhoid fever	6

Five deaths from smallpox are reported: three in Holyoke, one in Boston, and one in Springfield.

GEORGE DERBY, M.D.,
Secretary of State Board of Health.

DEATHS IN BOSTON for the week ending Saturday, April 22d, 91. Males, 50; females, 41. Accident, 3—apoplexy, 1—bronchitis, 1—inflammation of the brain, 1—canker, 2—consumption, 20—convulsions, 2—croup, 1—debility, 4—diarrhœa, 4—dropsy, 2—dropsy of the brain, 2—diabetes, 1—diphtheria, 2—dyspepsia, 1—erysipelas, 2—scarlet fever, 2—typhoid fever, 1—disease of the heart, 3—hæmorrhage, 1—influenza, 1—disease of the kidneys, 4—congestion of the lungs, 3—inflammation of the lungs, 8—laryngitis, 1—marasmus, 4—ovariotomy, 1—old age, 1—paralysis, 1—pleurisy, 1—premature birth, 1—psoriasis, 1—syphilis, 2—smallpox, 1—unknown, 5.

Under 5 years of age, 33—between 5 and 20 years, 7—between 20 and 40 years, 25—between 40 and 60 years, 16—above 60 years, 10. Born in the United States, 66—Ireland, 15—other places, 10.